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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,835	10/20/2003	Stefan Thiesen	32140-191339	9919
26694	7590	09/14/2005	EXAMINER	
VENABLE LLP P.O. BOX 34385 WASHINGTON, DC 20045-9998			NGUYEN, TRINH T	
			ART UNIT	PAPER NUMBER
			3644	

DATE MAILED: 09/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/687,835

Applicant(s)

THIESEN ET AL.

Examiner

Trinh T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 and 21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19, 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claim 21 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In this case, the phrase "said ejector charge rupturing only said projectile tip" is not found in the specification. Paragraph [0015] in Applicant's specification stated that "The charge pushed the spherical fragments 4 out of the front of the projectile 1 by bursting the tip 7" but it does not indicate that it ruptures only at the projectile tip.

2. Claim 21 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 21: regarding the phrase "said ejector charge rupturing only said projectile tip", it is not understood what is being claimed since there is no support/explanation in the specification for this particular limitation.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 7-9, 12, 13, 17-19, and 21 (as best understood) are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 100 57 673 (DE'673; please refer to corresponding U.S. 6,536,351 for a complete translation).

For claim 1, DE'673 discloses a fragment projectile comprising: a projectile casing (5) having a hollow interior space; heavy metal fragments (4) filling the hollow space; an ejector charge (5) disposed at the rear of the hollow space to eject the fragments from the projectile casing, when activated, during the flight of the projectile, the ejector charge causing the projectile casing to rupture at most at a projectile tip of the projectile casing through which the fragments are ejected; and means (3) for activating the ejector charge at a desired time during the flight of the projectile.

DE'673 lacks the teaching that the fragments filling at least half of the hollow space. However, whether the fragments filling at least one fourth or one sixth or half of the hollow space is a matter of design choice, since applicant's specification is silent that this particular claimed feature solves any problems or is for any particular purpose and it appears that the invention would perform equally well with the amount of fragments that taught in DE'673. Furthermore, note that in paragraph [0006] of applicant's specification, only "the heavy metal fragments at least partially filling the hollow space" is required.

For claim 2, DE'673 further discloses the means for activating, activates the charge at a predetermined time during the flight of the projectile.

For claim 3, DE'673 further discloses the means for activating is a timer (see line 41 of col. 2 of U.S. 6,536,351).

For claim 7, DE'673 further discloses the means for activating includes a timer or proximity fuse to ignite the ejector charge (see line 41 of col. 2 of U.S. 6,536,351).

For claim 8, DE'673 further discloses the fragments are spherical (see lines 5-7 and 43-44 of col. 2 of U.S. 6,536,351).

For claim 9, DE'673 further discloses the fragments are formed of tungsten heavy metal (see lines 5-7 and 43-44 of col. 2 of U.S. 6,536,351).

5. Claims 4-6, 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 100 57 673 (DE'673) in view of Feldmann (U.S. 4,970,960).

DE'673, as described above, discloses most of the claimed invention except for indicating that the fragment projectile is a subcaliber projectile provided with a propelling cage sabot.

Feldmann teaches a fragment projectile (12 in Figure 1, 24 in Figures 2 & 3, 41 in Figure 4, and Figures 9 & 10) which is a subcaliber projectile provided with a propelling cage sabot (14, 16). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the fragment projectile of DE'673 into a subcaliber projectile with a propelling cage sabot, in a similar manner as taught in Feldmann, in order to provide a projectile with a desirable ballistic efficiency and high hit probability characteristics.

For claim 5, DE'673 as modified by Feldmann (emphasis on DE'673) further discloses the fragments are spherical (see lines 5-7 and 43-44 of col. 2 of U.S. 6,536,351).

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For claim 6, DE'673 as modified by Feldmann (emphasis on DE'673) further discloses the fragments comprise tungsten heavy metal (see lines 5-7 and 43-44 of col. 2 of U.S. 6,536,351).

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over DE 100 57 673 (DE'673) in view of DE 15 78 135 (DE'135).

DE'673, as described above, discloses most of the claimed invention except for indicating fins that stabilize the projectile during flight.

DE'135 teaches a similar projectile as that of DE'673 in which DE'135's projectile includes fins (13) so as to provide stability to the overall projectile during flight. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the fragment projectile of DE'673 so as to include fins, in a similar manner as taught in DE'135, in order to provide stability to the overall projectile during flight.

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over DE 100 57 673 (DE'673) in view of Altenau et al. (US 6,041,713).

DE'673, as described above, discloses most of the claimed invention except for indicating that the ejector charge is a pyrotechnical charge.

Altenau et al. teach a similar projectile as that of DE'673 in which Altenau et al.'s projectile includes a pyrotechnical charge (15). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the fragment projectile of DE'673 so as to include a pyrotechnical charge as a ejector

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charge, in a similar manner as taught in Altenau et al., since it is well known in the art to use pyrotechnical charge as a source of charge to cause explosion in projectile.

Response to Arguments

8. Applicant's arguments filed 7/1/05 have been fully considered but they are not persuasive.

Applicant argues that DE'673 fails to teach heavy metal fragments filling at least half of the hollow space, the Examiner disagrees. It is noted that whether the fragments filling at least one fourth or one sixth or half of the hollow space is a matter of design choice, since applicant's specification is silent that this particular claimed feature solves any problems or is for any particular purpose and it appears that the invention would perform equally well with the amount of fragments that taught in DE'673. Furthermore, note that in paragraph [0006] of applicant's specification, only "the heavy metal fragments at least partially filling the hollow space" is required. Furthermore, see attached Figure of DE'673 at the end of this Office Action for the interpretation of "a projectile casing having a hollow interior space", it is noted that fragment (4) fills at least half of the hollow space defined within the projectile casing (5).

9. Regarding the argument whether DE'673's explosive charge ruptures at most at a projectile tip, it is noted that DE'673's explosive charge does rupture the projectile casing at many points and that many points would include at most at a projectile tip. Furthermore, it is not understood how Applicant's explosive charge rupturing only at the projectile tip, since it appears that the thickness of the projectile tip is thicker than the

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rest of the projectile casing and therefore the area of the projectile casing near the projectile tip (7) could also be ruptured as well.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trinh T. Nguyen whose telephone number is (571) 272-6906. The examiner can normally be reached on M-F (9:30 A.M to 6:00 P.M).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teri Luu can be reached on (571) 272-7045. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Trinh T Nguyen
Primary Examiner
Art Unit 3644

9/8/05

